

IN THE CLAIMS

Claims 1-20 (Canceled)

21. (New) A disk drive for reading information from a disk and outputting the read information which is to be provided to a host, comprising:

an accessing circuit which accesses the disk and generates the read information from the disk;

an interface circuit which transfers the generated read information from the accessing circuit to the host; and

a microcomputer, coupled with the accessing circuit and with the interface circuit, including a central processing unit and an electrically erasable and programmable nonvolatile memory,

wherein the electrically erasable and programmable nonvolatile memory stores a first program, a second program and a third program,

wherein using the stored first program, the microcomputer controls the accessing circuit so that the operation of the accessing circuit is controlled by the stored first program,

wherein using the stored second program, the microcomputer is adapted to check data in the electrically erasable and programmable nonvolatile memory, and

wherein using the stored third program, in response to the result of the check by using the stored second program, the microcomputer is adapted to transfer data for rewriting the contents of the first program in the electrically erasable and programmable nonvolatile memory from the host to the electrically erasable and programmable nonvolatile memory via the interface circuit.

22. (New) A disk drive according to claim 21,

wherein the electrically erasable and programmable nonvolatile memory further stores a fourth program which is executed by the microcomputer in response to the result of the check by using the stored second program,

wherein using the stored fourth program, the microcomputer is adapted to detect whether or not a specific command is provided to the interface circuit from the host, the specific command enables a rewrite operation of the contents of the first program in the electrically erasable and programmable nonvolatile memory, and

wherein the stored third program is executed by the microcomputer in response to the detection of the specific command.

23. (New) A disk drive according to claim 22,

wherein the electrically erasable and programmable nonvolatile memory includes a first area in which data related to the first program is stored, and

wherein the second program includes a fifth program and a sixth program, the microcomputer obtains data related to the first program stored in the electrically erasable and programmable nonvolatile memory by executing the fifth program, and the microcomputer checks a relationship between the obtained data and the stored data in the first area by executing the sixth program.

24. (New) A disk drive according to claim 23, wherein the microcomputer is adapted to execute the stored fourth program if the checking operation by executing the sixth program indicates that the relationship between the obtained data and the stored data in the first area is different from a predetermined relationship, and the microcomputer is adapted to execute the stored first program if the checking operation

by executing the sixth program indicates that the relationship between the obtained data and the stored data in the first area satisfies the predetermined relationship.

25. (New) A disk drive according to claim 24, wherein the related data stored in the first area is a sum, and wherein the fifth program includes a program for obtaining a sum from the first program stored in the electrically erasable and programmable nonvolatile memory.

26. (New) A disk drive according to claim 25, wherein the interface circuit is an ATAPI.

27. (New) A disk drive according to claim 26, wherein the disk is an optical disk.

28. (New) A disk drive according to claim 27, further comprising a buffer memory in which the data for rewriting the contents of the first program in the electrically erasable and programmable nonvolatile memory is stored.

29. (New) A disk drive according to claim 28, wherein the electrically erasable and programmable nonvolatile memory is a flash memory.

30. (New) A disk drive for reading information from a disk and outputting the read information which is to be provided to a host, comprising:

an accessing circuit which accesses the disk and generates the read information from the disk;

an interface circuit which transfers the generated read information from the accessing circuit to the host; and

a microcomputer, coupled with the accessing circuit and with the interface circuit, including a central processing unit and an electrically erasable and programmable nonvolatile memory,

wherein the electrically erasable and programmable nonvolatile memory stores a first program, a second program and a third program,

wherein using the stored first program, the microcomputer controls the accessing circuit so that the operation of the accessing circuit is controlled by the stored first program,

wherein using the stored second program, the microcomputer checks data in the electrically erasable and programmable nonvolatile memory, and

wherein using the stored third program, in response to the result of the check by using the stored second program, the microcomputer transfers data for rewriting the contents of the first program in the electrically erasable and programmable nonvolatile memory from the host to the electrically erasable and programmable nonvolatile memory via the interface circuit.

31. (New) A disk drive according to claim 30,

wherein the electrically erasable and programmable nonvolatile memory further stores a fourth program which is executed by the microcomputer in response to the result of the check by using the stored second program,

wherein using the stored fourth program, the microcomputer detects whether or not a specific command is provided to the interface circuit from the host, the specific command enables a rewrite operation of the contents of the first program in the electrically erasable and programmable nonvolatile memory, and

wherein the stored third program is executed by the microcomputer in response to the detection of the specific command.

32. (New) A disk drive according to claim 31,

wherein the electrically erasable and programmable nonvolatile memory includes a first area in which data related to the first program is stored, and

wherein the second program includes a fifth program and a sixth program, the microcomputer obtains data related to the first program stored in the electrically erasable and programmable nonvolatile memory by executing the fifth program, and the microcomputer checks a relationship between the obtained data and the stored data in the first area by executing the sixth program.

33. (New) A disk drive according to claim 32, wherein the microcomputer executes the stored fourth program if the checking operation by executing the sixth program indicates that the relationship between the obtained data and the stored data in the first area is different from a predetermined relationship, and the microcomputer executes the stored first program if the checking operation by executing the sixth

program indicates that the relationship between the obtained data and the stored data in the first area satisfies the predetermined relationship.

34. (New) A disk drive according to claim 33, wherein the related data stored in the first area is a sum, and wherein the fifth program includes a program for obtaining a sum from the first program stored in the electrically erasable and programmable nonvolatile memory.

35. (New) A disk drive according to claim 34, wherein the interface circuit is an ATAPI.

36. (New) A disk drive according to claim 35, wherein the disk is an optical disk.

37. (New) A disk drive according to claim 36, further comprising a buffer memory in which the data for rewriting the contents of the first program in the electrically erasable and programmable nonvolatile memory is stored.



38. (New) A disk drive according to claim 37, wherein the electrically erasable and programmable nonvolatile memory is a flash memory.

39. (New) A disk drive for reading information from a disk and outputting the read information which is to be provided to a host, comprising:

an accessing circuit which accesses the disk and generates the read information from the disk;

an ATA packet interface circuit which transfers the generated read information from the accessing circuit to the host; and

a microcomputer, coupled with the accessing circuit and with the ATA packet interface circuit, including a central processing unit and an electrically erasable and programmable nonvolatile memory,

wherein the electrically erasable and programmable nonvolatile memory stores a first program and a second program,

wherein using the stored first program, the microcomputer controls the accessing circuit so that the operation of the accessing circuit is controlled by the stored first program,

wherein the microcomputer is adapted to judge whether or not an information according to data stored in a part of the electrically erasable and programmable nonvolatile memory satisfies a predetermined information,

wherein if the information according to data stored in the part of the electrically erasable and programmable nonvolatile memory satisfies the predetermined information, the microcomputer is adapted to detect whether or not a specific command is provided to the ATA packet interface circuit from the host, and the specific command enables a rewrite operation of the contents of the first program in the electrically erasable and programmable nonvolatile memory by the microcomputer,

wherein using the second program, in response to the detection of the specific command, the microcomputer is adapted to transfer data for rewriting the contents of the first program in the electrically erasable and programmable nonvolatile memory from the host to the electrically erasable and programmable nonvolatile memory via the ATA packet information circuit, and

wherein if the information according to data stored in the part of the electrically erasable and programmable nonvolatile memory satisfies the predetermined information,

the microcomputer executes and operation in accordance with the first program.

40. (New) A disk drive according to claim 39, wherein the electrically erasable and programmable nonvolatile memory stores a third program, and wherein by using the stored third program, the microcomputer is adapted to detect whether or not the specific command is provided to the ATA packet interface circuit from the host.

41. (New) A disk drive according to claim 40, wherein the information according to data stored in the part of the electrically erasable and programmable nonvolatile memory is a sum value of data stored in the part of the electrically erasable and programmable nonvolatile memory, wherein the predetermined information is a sum value stored in a sum value storage area included in the electrically erasable and programmable nonvolatile memory, and wherein the satisfaction condition is that the sum value of data stored in the part of the electrically erasable and programmable nonvolatile memory is different from the sum value stored in the sum value storage area.

42. (New) A disk drive unit, comprising:

an accessing circuit which accesses a disk, reads information from the disk and processes the read information;

an interface circuit which transfers the processed information from the accessing circuit to a host; and

a microcomputer, coupled with the accessing circuit and with the interface circuit, and including a central processing unit, a first port coupled to the interface circuit, a second port, and an electrically erasable and programmable nonvolatile memory,

wherein the central processing unit, the first port, the second port, and the electrically erasable and programmable nonvolatile memory are formed on a semiconductor substrate,

wherein the electrically erasable and programmable nonvolatile memory has a write-inhibited area and a write-enabled area adapted to store therein data received from the interface circuit via the first port,

wherein a first program is in the write-enabled area, and a second program and a third program are in the write-inhibited area,

wherein in response to an operating of the central processing unit by executing the first program, the microcomputer is adapted to control the accessing circuit,

wherein in response to an operating of the central processing unit by executing the second program, the microcomputer is adapted to detect whether a command provided to the interface circuit from the host is a specific command or not, the specific command enables a write operation of the contents of the first program in the electrically erasable and programmable nonvolatile memory by the microcomputer,

wherein in response to an operating of the central processing unit by executing the third program and in response to detecting the specific command, the microcomputer is adapted to transfer data for writing the contents of the first program from the host to the electrically erasable and programmable nonvolatile memory via the interface circuit, and

wherein the write-inhibited area is writable from the second port.

43. (New) A disk drive unit according to claim 42, further comprising a serial port,

wherein the serial port is coupled to the second port.

44. (New) A disk drive unit according to claim 42,  
wherein the central processing unit further includes  
a serial communication interface circuit, and  
wherein the second port is electrically coupled to  
the serial communication interface circuit in a write  
operation in the write-inhibited area.

45. (New) A disk drive unit according to claim 42,  
wherein the microcomputer controls loading a program  
for writing in the write-inhibit area via the second port, and  
includes a fourth program for controlling a write operation of  
the program.

46. (New) A disk drive unit according to claim 45,  
wherein the central processing unit includes a boot  
ROM, and  
wherein the fourth program is stored in the boot  
ROM.

47. (New) A disk drive unit according to claim 42,  
further comprising a buffer memory,

wherein the data to be written in the write-enabled area is transferred to the buffer memory from the host via the interface circuit, and

wherein the data thus stored in the buffer memory is thereafter transferred to the electrically erasable and programmable nonvolatile memory.

48. (New) A disk drive unit according to claim 45, wherein a fifth program is stored in the write-inhibit area, and

wherein the central processing unit rewrites at least part of the first program to the write-enabled area by an operating of the central processing unit by executing the fifth program.

49. (New) A disk drive unit according to claim 48, wherein the electrically erasable and programmable nonvolatile memory is a flash memory.

50. (New) A disk drive unit according to claim 42, wherein the disk is any one of CD-ROM, DVD, DVD-ROM, DVD-RAM, CDI, DVI, or MOD.

51. (New) A disk drive unit according to claim 42,  
wherein the interface circuit is adapted to include  
an ATAPI interface specification.